

DERWENT-ACC-NO: 1977-77822Y

DERWENT-WEEK: 197744

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TITLE: Surface-hardened steel components -
with surface nitride layer and outermost oxidised layer
for improved running:in and wear resistance

PATENT-ASSIGNEE: NISSAN MOTOR CO LTD[NSMO]

PRIORITY-DATA: 1976JP-0038806 (April 8, 1976)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE	
LANGUAGE		MAIN-IPC	
DE 2715745 A		October 27, 1977	N/A
000	N/A		
GB 1522447 A		August 23, 1978	N/A
000	N/A		
JP 52138027 A		November 17, 1977	N/A
000	N/A		
JP 80004833 B		February 1, 1980	N/A
000	N/A		
US 4131492 A		December 26, 1978	N/A
000	N/A		

INT-CL (IPC): C23C011/16, C23F007/02

ABSTRACTED-PUB-NO: DE 2715745A

BASIC-ABSTRACT:

Surface-hardened steel components such as the gear wheels and pinions in a motor car gearbox have a nitride layer which forms the surface of the component, and an oxidised layer which is the outermost part of the nitride layer. The pref. thickness for the oxidised layer is 1-10 mu. The softer oxidised layer provides excellent running-in properties. The later exposed

nitride layer ensures outstanding wear resistance.

The prods. may be obtd. by treating steel components in an ammonia gas atmos.

contg. 1-10 vol.% O₂, corresponding to 5-50% air.

Alternatively, already

nitrided steel components are heated in the oxygen-contg. ammonia gas. The

pref. heat treatment temp. is 450-650 degrees C.

TITLE-TERMS: SURFACE HARDEN STEEL COMPONENT SURFACE NITRIDE
LAYER OUTER

OXIDATION LAYER IMPROVE RUN WEAR RESISTANCE

DERWENT-CLASS: M13

CPI-CODES: M13-D03; M14-D01;